

REMARKS

In a final Office Action dated July 15, 2008, the Examiner rejected claims 1-6 under 35 U.S.C. §112, first paragraph, for failing to comply with the written description requirement. In particular, the Examiner contended that description fails to disclose the feature of claim 1 that an access node *substitutes* an address with its own address and instead merely discloses that a route is *added*, not substituted. The Examiner also rejected claims 1-6 under 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner contended that it is unclear what is being substituted for, that is, replaced and that the feature of claim 1 that the “access node substitutes its address” is unclear whether it is the IP address of the access node or some other type of address.

The Examiner further rejected claims 1, 2, 4-6, 19, and 20 under 35 U.S.C. §103(a) as being unpatentable over La Porta et al. (European patent no. EP 1 011 241, hereinafter referred to as “La Porta”) in view of Immonen et al. (U.S. patent no. 7,006,472, hereinafter referred to as “Immonen”), Jang et al. (U.S. patent publication no. 2001/0043571, hereinafter referred to as “Jang”), Prasad et al. (U.S. patent no. 7,054,328, hereinafter referred to as “Prasad”) and Heller (U.S. patent no. 7,139,833). The Examiner also rejected the following claims under the following art:

- claims 3 and 18 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Immonen, Jang, Prasad, Heller, and further in view of Shitama (U.S. patent no. 7,257,104),
- claim 7 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Li (U.S. patent no. 6,385,174) Templin (U.S. patent publication no. 2001/0040895), and Heller,
- claims 8, 9, 13, 14, and 17 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Prasad, Li, Templin, and Heller,
- claims 10 and 16 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Prasad, Li, Templin, Heller, and Shitama, and

- claims 11, 12, and 15 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Prasad, Li, Templin, Heller, and Immonen.

The rejections and objections are traversed and reconsideration is hereby respectfully requested.

Rejections of claims 1-6 under 35 U.S.C. §112, first paragraph, and 35 U.S.C. §112, second paragraph

The Examiner rejected claims 1-6 under 35 U.S.C. §112, first paragraph, for failing to comply with the written description requirement. In particular, the Examiner contended that description fails to disclose the feature of claim 1 that an access node *substitutes* an address with its own address and instead merely discloses that a route is *added*, not substituted. The Examiner also rejected claims 1-6 under 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner contended that it is unclear what is being substituted for, that is, replaced. Accordingly, claim 1 has been amended to provide that the access node *adds* its address to the message, as was originally taught by the claim, as opposed to being substituted for something else.

The Examiner further rejected claims 1-6 under 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner contended that the feature of claim 1 that the “access node substitutes its address” is unclear whether it is the IP address of the access node or some other type of address. Accordingly, claim 1 has been amended to clarify that the access node *adds an IP address of the access node* to the message. As a result, the applicants respectfully request that the Examiner withdraw the rejections of the claims under the first and second paragraphs of §112.

Rejection of claims 1, 2, 4-6, 19, and 20 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Immonen, Jang, Prasad, and Heller

The Examiner rejected claims 1, 2, 4-6, 19, and 20 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Immonen, Jang, Prasad, and Heller. Claim 1, as amended, provides a method of supporting mobility in an Internet Protocol version 6 (IPv6)-based data network that includes generating a first stateful IPv6 autoconfiguration message at a mobile node (MN), wherein the message contains an IP address capable of use for route maintenance to and from the MN, transmitting, by the MN, the generated message to a first access node, where the access node adds an IP address of the access node to said message, forwarding the generated message, by the first access node, to a dynamic host configuration protocol (DHCP) Server, analysing said message, at the DHCP server, to determine a route to deliver data one or more of to the MN and from the MN, analysing the message, at the access node, to determine a route to deliver data one or more of to the MN and from the MN, and triggering one or more route update messages from the access node and the DHCP server to a number of network elements between the access node and the DHCP server in the IP based data network, wherein the one or more route update messages from the access node and the DHCP server are triggered substantially simultaneously. These features are not taught by the cited art.

In rejecting claim 1, the Examiner contended that La Porta teaches mobile IP (Internet Protocol) wireless access for an IP-based network of mobiles that includes,

generating a first stateful IPv6 autoconfiguration message at a mobile node (MN), wherein the message contains an IP address capable of use for route maintenance to/from the MN, and transmitting, by the MN, the generated message to a first access node, where the access node substitutes its address in the message (col. 16, lines 20-31; col. 18, lines 16-18; FIG. 9, item 314),

forwarding the generated message, by the first access node, to a dynamic host configuration protocol (DHCP) server (col. 12, lines 28-34; col. 35, lines 1-8, 26-31, and 46-53; FIG. 17, BS11, MD 114, and Domain Root Router 360),

analysing the message, at the DHCP server, to determine a route to deliver data to the MN (col. 35, line 57 to col. 36, line 17),

analysing the message, at the access node, to determine a route to deliver data to the MN (col. 35, lines 4-26),

triggering one or more route update messages from the access node and the DHCP server to a number of network elements between the access node and said DHCP server in the IP based data network (col. 16, lines 34-38 and 43-46), and

repeating the steps of generating, transmitting and forwarding for a second stateful IP autoconfiguration message that confirms the IP address of the MN when the MN attaches to a second access node, where the second access node substitutes its address in the second message (col. 34, lines 41-43 and 54-55; col. 35, line 1 to col. 36, line 25; and FIG. 17).

Notwithstanding the above contentions, the Examiner acknowledged that La Porta does not teach stateful IPv6 autoconfiguration, an access node that substitutes its own address in a message, an update message from a server, repeating steps of generating, transmitting and forwarding for a second message that confirms the IP address of the MN when the MN attaches to a second access node, and in response to receiving said second stateful IP autoconfiguration message, generating one or more route update messages by said second access node and said DHCP server. However, the Examiner contended that Immonen teaches a stateful IP autoconfiguration message (col. 31, lines 25-28), Jang teaches an access node substituting its own address in a message (paragraph 0115), Prasad teaches an update message from a server (col. 7, lines 60-63), and Heller teaches repeating steps of generating, transmitting and forwarding for a second message that confirms the IP address of the MN when the MN attaches to a second access node (col. 3, lines 60-67). Although not specifically addressed, the Examiner appeared to further contend that Heller teaches in response to receiving the second message, generating one or more route update messages by the second access node and the DHCP server (col. 3, lines 60-67).

As acknowledged by the Examiner, La Porta does not teach stateful IPv6 autoconfiguration. La Porta is directed to an IPv4 system. Stateful versus stateless

address auto-configuration is a distinctive characteristic of IPv6 and is a distinction that does not exist in IPv4 and therefore does not exist in LaPorta. Claim 1 further provides for the MN generating, and conveying to the access node, a first stateful IP autoconfiguration message. By contrast, La Porta teaches the MN generating and conveying a path setup message. These messages have different semantics and claim 1, in using a stateful IP autoconfiguration message, uses a standard message while La Porta teaches a new message that is proprietary to La Porta. Thus La Porta requires modifications to the MN that are not required by claim 1. In addition, claim 1 teaches the DHCP server generating route update messages. By contrast and as acknowledged by the Examiner, the DHCP server taught by La Porta does not generate a path setup message.

Furthermore, claim 1 teaches that when the MN attaches to a second access node, the MN merely conveys a stateful IP autoconfiguration message that confirms the IP address of said mobile node. Again, not only are stateful IP autoconfiguration messages not taught by La Porta, but La Porta teaches that when a MN attaches to a new base station, the MN conveys a path update message to the new base station that includes the IP addresses of the old and new base stations, which path update message then is forwarded around the network. By contrast, claim 1 teaches that the MN merely sends, to the new access node, an IP address confirmation message, which is not a route update message and does not exist in IPv4, and the path update messages are generated by the access node and DHCP server. In contrast to claim 1, and as acknowledged by the Examiner, the DHCP server taught by La Porta does not generate any path setup or handoff path setup messages.

The Examiner contended that Immonen teaches stateful autoconfiguration. However, while Immonen teaches DHCPv6, Immonen teaches that the MN uses DHCPv6 to acquire a new IP address. By contrast, claim 1, as amended, teaches use of a stateful IP autoconfiguration message to confirm a previously acquired address. In this way, in the teachings of claim 1, the MN does not acquire a new address and merely uses the previously acquired address, allowing for MN mobility to be supported by the core network without requiring an address change. As an IP address confirmation message

does not exist in IPv4 (La Porta) and is not taught by Immonen, the combination of La Porta and Immonen cannot be construed to teach the feature of claim 1 of a stateful IP autoconfiguration message that confirms a previously acquired address

Further, claim 1 provides for analysing the first stateful IPv6 autoconfiguration message at each of a DHCP server and an access node and, in response, the DHCP server and access node generating path setup messages. The sections of La Porta cited by the Examiner in rejecting these features, that is, column 16, lines 34-38 and 43-46, column 35, lines 4-26, and column 35, line 57 to column 36, line 17, merely teach a mobile device or a base station generating a path setup message. As acknowledged by the Examiner, La Porta does not teach a DHCP server generating path setup messages. The Examiner then contended that Prasad teaches, at column 7, lines 60-63, an update message from a server. However, while La Porta and Prasad may teach an individual element of a network generating a path setup message, neither La Porta nor Prasad teaches *both a DHCP server and an access node* generating path setup messages, let alone route update messages from the access node and the DHCP server that are *triggered substantially simultaneously*.

Therefore, the applicants respectfully submit that the cited art, individually or in combination, does not teach the features of claim 1 of generating a first stateful IPv6 autoconfiguration message at an MN, wherein the message contains an IP address capable of use for route maintenance to and from the MN, transmitting, by the MN, the generated message to a first access node, where the access node adds an IP address of the access node to said message, analysing the message at the DHCP server and the access node to determine a route to deliver data one or more of to the MN and from the MN, and *triggering one or more route update messages from the access node and the DHCP server to a number of network elements between the access node and the DHCP server in the IP based data network, wherein the one or more route update messages from the access node and the DHCP server are triggered substantially simultaneously*, and repeating said steps of generating, transmitting and forwarding *for a second stateful IP autoconfiguration message that confirms the IP address of said mobile node* when said

mobile node attaches to a second access node. Accordingly, the applicants respectfully request that claim 1 may be passed to allowance.

Since claims 2-6 and 18-20 depend upon allowable claim 1, the applicants respectfully request that claims 2-6 and 18-20 also may be passed to allowance.

Rejection of claim 7 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Li, Templin, and Heller

The Examiner rejected claim 7 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of in view of Li, Templin, and Heller. Claim 7, as amended, teaches an IPv6-based data network that is operable to generate a first stateful IP autoconfiguration message at an MN, wherein said message contains an address capable of use for route maintenance to and from the MN, the network comprising hosts including one or more of an access node, a dynamic host configuration protocol (DHCP) Relay, and a DHCP Server, the network comprising a means for receiving a stateful IPv6 autoconfiguration message from the MN that comprises an MN IP address, a means for analyzing the message to determine a route to deliver data one or more of to the MN and from the MN, and a means for triggering transmission of one or more route update message from said access node and the DHCP Server to a number of network elements between said access node and the DHCP server in the IPv6-based data network, wherein the one or more route update messages from the access node and the DHCP server are triggered substantially simultaneously. These features are not taught by the cited art.

As described in detail above, La Porta does not teach stateful IPv6 autoconfiguration messages. La Porta also does not teach a server generating route update messages, let alone a triggering route update messages at both an access node and a DHCP server based on a stateful IPv6 autoconfiguration message, let alone that the route update messages from the access node and the DHCP server are triggered substantially simultaneously. Such a message triggering feature is not taught by Li, Templin, or Heller, either. Therefore, none of La Porta, Li, Templin, or Heller,

individually or in combination, teaches the network of claim 7. Accordingly, the applicants respectfully request that claim 7 may be passed to allowance.

Since claims 8-10, 12, 13, and 15-17 depend upon allowable claim 7, the applicants respectfully request that claims 8-10, 12, 13, and 15-17 also may be passed to allowance.

The applicants have cancelled claims 11 and 14.

As the applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the Examiner, the applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter. Furthermore, please charge any additional fees (including extension of time fees), if any are due, or credit overpayment to Deposit Account No. 50-2117.

Respectfully submitted,
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